



Follow and Support:
Toward A More Useful Warfighting
Doctrine

A Monograph
by
Major Emmett E. Perry, Jr.
Armor



DTIC
ELECTE
DEC 21 1992
S E D

School of Advanced Military Studies
United States Army Command and General Staff College
Fort Leavenworth, Kansas

AY 91-92

Approved for Public Release; Distribution is Unlimited

92-32410



92 12 18 100

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.

1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE		3. REPORT TYPE AND DATES COVERED	
4. TITLE AND SUBTITLE <i>FOLLOW AND SUPPORT : TOWARD A MORE USEFUL WARFIGHTING DOCTRINE. (U)</i>				5. FUNDING NUMBERS	
6. AUTHOR(S) <i>EMMETT E. PERRY, JR MAJOR, ARMOR.</i>					
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) <i>SCHOOL OF ADVANCED MILITARY STUDIES ATTN: AT2L-SWV FT LEAVENWORTH, KS 66027-6900 COM (013) 684-2138 AV 552-3437</i>				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSORING/MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES					
12a. DISTRIBUTION/AVAILABILITY STATEMENT <i>APPROVED FOR PUBLIC RELEASE; DISTRIBUTION LIMITED</i>				12b. DISTRIBUTION CODE	
13. ABSTRACT (Maximum 200 words) <i>SEE ATTACHED</i>					
14. SUBJECT TERMS <i>FOLLOW AND SUPPORT FOLLOW AND ASSUME CORPS OPERATIONS</i>				15. NUMBER OF PAGES <i>49</i>	
				16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT <i>UNCL</i>	18. SECURITY CLASSIFICATION OF THIS PAGE <i>UNCL</i>	19. SECURITY CLASSIFICATION OF ABSTRACT <i>UNCL</i>	20. LIMITATION OF ABSTRACT <i>UNLIMITED</i>		

SCHOOL OF ADVANCED MILITARY STUDIES

MONOGRAPH APPROVAL

Major Emmett E. Perry, Jr.

Title of Monograph: Follow and support: Toward a
More Useful Warfighting Doctrine

Approved by:

James J. Schneider Monograph Director
James J. Schneider, M.A.

James R. McDonough Director School of
Col. James R. McDonough, M.S. Advanced Military
Studies

Philip J. Brookes Director, Graduate
Philip J. Brookes, Ph.D. Degree Program

Accepted this 31st day of December 1991

ABSTRACT

FOLLOW AND SUPPORT: TOWARD A MORE USEFUL WARFIGHTING DOCTRINE by MAJ Emmett E. Perry, Jr., USA, 49 pages.

The purpose of this paper is to answer the question: How should U.S. Army doctrine for the "follow and support" mission be clarified? This is done by focusing on the evolution of the "follow and support" concept in the Army's capstone doctrinal manual, Field Manual 100-5.

"Follow and support" is a fundamental mission assigned to U.S. Army forces in support of an exploitation or pursuit mission. Nevertheless, the doctrine, as described in the current FM 100-5 is unclear at several points. These points include the relationship between the "follow and support," reserve, and trailing forces and the relationship between the main effort and the "follow and support" force.

The monograph reviews the theoretical basis for the "follow and support" force mission followed by a review of the evolution of tasks associated with "follow and support" since 1939. Analysis and conclusions which follow provide suggestions for inclusion in an updated FM 100-5.

Accession For	
NTIS CRA&I	<input checked="" type="checkbox"/>
DTIC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification	
By	
Distribution /	
Availability Codes	
Dist	Avail and/or Special
A-1	

Table of Contents

I.	INTRODUCTION	1
II.	THEORY AND CURRENT DOCTRINE	3
III.	EVOLUTION OF "FOLLOW AND SUPPORT" CONCEPT	8
	FSR 100-5, 1939	8
	FSR 100-5, 1941	9
	FSR 100-5, 1944	13
	FOLLOW AND SUPPORT: VII CORPS IN RUHR POCKET, 1944	14
	FM 100-5, 1949	17
	FM 100-5, 1954	19
	FM 100-5, 1962	21
	FM 100-5, 1968	22
	FM 100-5, 1976	24
	FM 100-5, 1982	24
	FM 100-5, 1986	27
IV.	ANALYSIS	28
V.	CONCLUSION	38
	SKETCH Ruhr Pocket	41
	ENDNOTES	42
	BIBLIOGRAPHY	46

*The armor, as expected, by-passed isolated groups of the enemy. Mopping up was accomplished by assigning infantry divisions definite zones and having them sweep the zones as they advanced behind the armor. This operation was controlled by corps but in the latter phase when the advance became rapid and the infantry was moving in trucks, it was not possible to do a thorough job. During exploitation, mopping up operations should be coordinated by army, using troops allocated for the purpose. Spearhead troops soon dispersed if required to mop up.*¹

This passage from World War II reflects concern about performance of tasks associated with the mission we now call "follow and support." The term is relatively new, but recognition of tasks we now associate with it is not.² Although identification of the tasks has evolved, the principles to guide thinking about this mission have not developed significantly since World War II. Moreover, our current doctrine for "follow and support" does not clearly differentiate the tasks assigned to, and relationships between four forces: the main effort, the "follow and support" force, the reserve, and "trailing forces."³

I. INTRODUCTION

The purpose of this paper is to answer the question: How should U.S. Army doctrine for the "follow and support" mission be clarified? This is done by focusing on the evolution of the "follow and support" concept in the numerous editions of the Army's capstone doctrinal manual, Field Manual 100-5.

This paper focuses on a mechanized corps where a "follow and support" division follows the main effort. However, applications to other types of forces, above and below corps level, will be apparent.

In an exploitation or pursuit, the corps commander designates a unit to "follow and support" the main attack.⁴ The "follow and support" unit is generally the same size as the supported unit, in this case, a division.⁵ This division performs specific tasks in support of the lead division.

A "follow and support" mission is both diverse and difficult. The mission has these characteristics because the range of potential tasks extends from routine support to complex combat operations. The tasks normally assigned to the "follow and support" force are likely to cause them to be physically dispersed across the battlefield. Therefore, the "follow and support" force's combat power is quickly committed and diffused. Nevertheless, "follow and support" has become an inherent part of mechanized warfare because it reduces or removes distractions from the main effort. In this way, the main effort remains focused upon the objective. Wherever large scale mechanized warfare is conducted, effective accomplishment of "follow and support" missions will remain key to success of the main effort and the corps.

This paper begins with key definitions, a discussion both of the theory underlying the concept, and a review of

current doctrine. Then, the evolution of the "follow and support" concept is reviewed beginning in 1939 and concludes with Operations, FM 100-5, 1986. Included in the historical overview is an example of "follow and support" in practice: U.S. VII Corps's operations in the Ruhr Pocket, 1945. This example suggests areas where FM 100-5 can clarify each participant's role. The analysis and conclusions that follow consider "follow and support" issues relevant to modern warfare.

The following are key definitions:

Follow and support force. The follow and support force is not a reserve. It is a committed force. Such forces:

- Widen or secure the shoulders of a penetration.
- Destroy bypassed units.
- Relieve supported units that have halted to contain enemy forces.
- Block movement of enemy reinforcements.
- Open and secure lines of communication.
- Guard prisoners, key areas, and installations.
- Control refugees.
- Secure key terrain. 6

Follow and assume force. A committed force that follows a force conducting an offensive operation. Such a force is not a reserve or support force, but is committed to assume the subsequent main attack of the headquarters to which it is assigned, attached or OPCON. 7

II. THEORY AND CURRENT DOCTRINE

The idea that a force may culminate--that is, have insufficient combat power to reach its assigned objective--is the foundation upon which the "follow and support" concept is built. Defining culmination of attack, Clausewitz said:

Most . . . [attacks] only lead up to the point where their remaining strength is just enough to maintain a defense and wait for peace. Beyond

that point the scale turns and the reaction follows with a force that is usually much stronger than that of the original attack. "

Clausewitz gives five causes for loss of the attacker's combat strength. First, the invader has to defeat defending forces. Second, movement into hostile territory extends and exposes the attacker's flanks. Third, as depth increases, operations occur further away from bases of supply. Allied support of the defender is the fourth reason. Finally, resolve increases when the defender's home territory is invaded. Each of these causes includes aspects used for development of the "follow and support" concept."

The first cause, defeat of a defending enemy, relates to "follow and support" in the need to isolate and destroy forces bypassed and remaining in defensive positions, or to "besiege" defending "garrisons."¹⁰ "As small as each of these garrisons may be, they all deplete the army's available strength."¹¹ If the main effort attempts to reduce each prepared defensive position, time and combat power is quickly lost. "Follow and support" forces relieve the main effort of this burden.

According to Clausewitz, a second reason for loss of combat power is "the further the advance, the longer these [exposed] flanks become, and the risks they represent will progressively increase."¹² As the main attack advances, the amount of force required to protect its expanding flanks can quickly reduce available combat power.

Defending the flanks of the advancing force is not explicitly mentioned as a task for the "follow and support" force in our current definition. This task, defending against counterattacks, was an important task and is discussed in greater detail later.

Attack into enemy territory--the third category of Clausewitz's definition--also extends lines of communication. Even if unhindered by enemy forces, the resupply capability may be insufficient over extended distances. Again, the result can be culmination short of the objective.¹³

Fourth, Clausewitz refers to "political alignments" that become more likely threats to flanks "in direct proportion to the advance."¹⁴ An application of this concept to our discussion is simply that counterattack threats can come from forces beyond those of the immediate defender.

Finally, a hostile populace may effectively harass friendly forces. The impact of harassment along lines of communication could have a particularly significant impact on support of forward units. The second, and primary aspect of this cause, is Clausewitz's claim that soldiers fight with greater determination in home territory.

There is an additional reason for loss of combat power not explicitly found in Clausewitz's list. In an age of mechanization, losses occur due to maintenance failures. If losses exceed acceptable levels this factor

alone may result in premature culmination of the main attack.

Several observations are appropriate in context of "follow and support." The objective[s] for the main attack must be within grasp. This assumes an understanding of the enemy defensive capability and the attacker's ability to overcome the defense. Assignment of a "follow and support" force presupposes that the main attack will culminate short of the final objective if not supported. The "follow and support" force then serves to delay culmination of the main attack. It does this by relieving the main attack of tasks that would reduce its combat power, keeping the main attack focused upon its objective.

The final issue of theory to review is the use of a reserve force. As will become apparent later, the distinction between the reserve and the "follow and support" remains unclear in FM 100-5. Therefore, a review of the principles guiding the use of the reserve is essential. Again citing Clausewitz,

A reserve has two distinct purposes. One is to prolong and renew the action; and the second, to counter unforeseen threats. 12

In the context of "follow and support," the first relates to continuing the attack to reach the final objective. This agrees with current doctrine. The reserve force may carry the fight to the objective. The second purpose includes tasks outlined in the "follow and support"

definition given earlier as the responsibility of the "follow and support" force. FM 100-5 gives this broad view of the reserve's role in the offensive framework:

Reserves are positioned to weight the main effort. They exploit success, reinforce or maintain momentum, deal with enemy counterattacks, provide security, complete the destruction of enemy forces, secure deep objectives, or open the next phase of a campaign or major operation by seizing objectives beyond the defended area. 16

Current doctrine identifies tasks associated with "follow and support" but fails to expand the discussion. The doctrine for applying "follow and support" has not matured. This suggests the question, "What should doctrine provide?" In describing doctrine's role from 1946-1976, Major Robert A. Doughty observed:

Doctrine continued to provide guides for action or to suggest methods that would probably work best. Similarly, doctrine facilitated communication between Army officers, for it defined terms and provided concepts which enabled the numerous army on the battlefield to act together in a coherent manner or to be successfully orchestrated. 17

Current doctrine for "follow and support" only lists tasks appropriate to a "follow and support" unit. Simply put, our doctrine does not fully define the tasks or delineate between the role of the reserve, the follow and support force, and other following forces. In addition, it does not attempt to define how the "follow and support" force actually supports the main attack.

III. EVOLUTION OF THE "FOLLOW AND SUPPORT" CONCEPT

In the offense, recognition of the need to support the main effort is well established. Hence the concept, and the tasks associated with this support, are well documented. As equipment and organizations have changed so the tasks have evolved. These changes provide a unique context in which tasks developed. Modern "follow and support" tasks are directly related to, yet distinct from, their predecessors. Understanding the origins of current tasks allows examination of the present, and anticipation of future doctrine, with better perspective.

FSR 100-5, 1939

The 1939 revision of Operations (1923) was the first significant step in the development of doctrine for U.S. mechanized warfare. With respect to "follow and support," the 1939 version described two tasks still present today: expanding shoulders of the penetration and defense of exposed flanks. Reserves, comprised primarily of infantry, performed both tasks.¹⁶

Offensive operations were classified as frontal attack, penetration or encirclement. Exploitation received little attention. The reason was that tanks "ordinarily [were] assigned the same objective as the infantry they supported."¹⁷ Tank units did not outrun the forces they supported. Attacks did not extend beyond the rear of the enemy's forward defense. Therefore, the

attack did not include exploitation as we understand it today.²⁰

Reserves, artillery, and combat aviation met counterattacks against the penetration. The tactical concept was to penetrate, encircle, and destroy portions of the enemy's force. This approach was simply a means of destroying enemy forces piecemeal. Reserves accomplished the subsequent mission of "rolling up of the flanks."²¹

In an envelopment, the need to preserve the main attack's strength was emphasized. The reserve force was responsible for "protecting their exterior flank . . . and rolling up the flanks of a gap created by penetration."²² Limited envelopments were sought in order to destroy frontline units.

In sum, the first combined arms doctrine focused upon relatively shallow objectives and mechanized support of the infantry to achieve these objectives. The two tasks, protection of flanks and actions to expand and secure the penetration, must be viewed in this context. They occurred as part of penetration and encirclement, not exploitation or pursuit. Finally, infantry reserves accomplished both tasks.

FSR 100-5, 1941

In 1941, FSR 100-5 included significant additions to the 1939 version. Review of early World War II experiences resulted in expansion of mechanized warfare

doctrine. Exploitation was added to the 1939 discussion of penetration and envelopment. Besides cavalry, armored and motorized infantry units also conducted exploitation.²³ This version establishes significant preconditions for modern of "follow and support" doctrine.

While the term "follow and support" was not used, the tasks associated with it were:

- *Expand shoulders of the penetration.*
- *Protect flanks allowing "tank units to continue advance" (corresponding to block movement of enemy reinforcements).*
- *"[P]rovide prompt relief in order to facilitate the continued rapid advance of the armored troops."*
- *"[O]vercome the remaining enemy hostile resistance in the area over which the tanks have passed" (corresponding to destruction of bypassed forces).²⁴*

The first two tasks were present in 1939. The last two were added in this version.

Doctrine for penetration and subsequent exploitation underwent considerable change. A distinction was made between actions near the penetration and those made subsequently during exploitation.

First, several actions occur near the penetration. After the breakthrough accomplished by infantry units, "local envelopments and exploitation are performed by less mobile troops [emphasis added]."²⁵ As in the 1939 version, the penetration force's reserve was responsible for "rolling up the flanks of the gap."²⁶

Following penetration and envelopment, deep exploitation to assigned objectives was conducted by

armored, motorized or cavalry divisions. This was an important development. Tasks associated with "follow and support" occurred in two locations: near the penetration and in greater depth.

The role of the reserve in penetration was upon decisive employment, "to clinch the victory."²⁷ In other words, it served to secure the local penetration. This force too, was generally an infantry force. In exploitation, reserves, artillery, and combat aviation meet counterattacks.²⁸ Reserves in the armor division conducting the exploitation also maintained "continuity and direction" of the main attack.²⁹

The description in 1941 of motorized infantry capabilities with its assigned missions was the beginning of dedicated "follow and support" forces. Rather than suggesting missions a particular size unit could do, the focus in 1941 was upon tasks suited to motorized infantry. The motorized division could: "[P]rovide close support to armored or tank units; consolidate and hold gains made; and to protect the flanks and rear . . . and permit their continued advance; . . . seize and hold important localities pending arrival of less mobile forces."³⁰ Motorized divisions were also expected to follow an exploitation force through a breakthrough with assignment to "extend, widen or hold the breach."³¹ "Motorized [infantry] divisions which are supporting armored units

must provide close support and prompt relief in order to facilitate the continued rapid advance of the armored troops."³² However, motorized units were expected to do more. The armored division's "support echelon," an infantry force transported by armored personnel carriers, was responsible to follow closely the striking force. The support force is the first doctrinal force to have support as its primary mission. Support forces performed these tasks: "overcome the remaining hostile resistance in the area over which the tanks have passed, to occupy and hold the ground gained, or to cover the reorganization of tank units during the course of the attack."³³

To summarize, the 1941 edition of FSR 100-5 had four tasks associated with what we now call "follow and support." While "reserves," probably motorized infantry, conduct each of these tasks, it was unclear whose reserve accomplished each task. Expanding shoulders of the penetration was intended for infantry or motorized infantry reserves. Protection of flanks too, was the responsibility of the reserve. Providing relief to facilitate the rapid advance of armored forces was assigned to the motorized infantry. Finally a motorized infantry "support echelon," was to destroy bypassed forces and to provide general support of the armored force.

In the midst of uncertainty concerning the reserve one point is clear: the exploitation force focused upon its assigned objective.

The doctrine that underlies offensive employment of the combined arms are conservation of combat power in the attack echelon, provision of assistance for them to close with the enemy, and after that support of their attack until the enemy's power of resistance is broken. 34

Recognition of the importance of maintaining momentum of the main attack, developed in this version, remained a focal point in subsequent development of "follow and support" doctrine.

FSR 100-5, 1944

Changes in "follow and support" doctrine between 1941 and 1944 editions of FSR 100-5 were few. The tasks outlined in 1941 remain unchanged. However, the relationship between an armor division exploitation and the supporting infantry was clarified.

Initial penetration was to be accomplished by an infantry force. The armor force exploits through the gap and mobile infantry supports the armor. "Mobile infantry should follow [the armor] closely to protect the flanks and rear, relieve the armored infantry [organic to the armor division], protect reorganization, and to free the armored division for further action." 35

Recognition of the need to support mechanized or armored forces immediately followed doctrine to employ mechanized forces to greater battlefield depth. It was clear that mechanized forces required additional support to achieve objectives in depth. The primary addition to

the evolution of "follow and support" doctrine was the clear identification of infantry forces to support closely the armor during exploitation.

While the summary above captures the doctrine current at the time, the following illustrates the wartime application of the doctrine.

FOLLOW AND SUPPORT: VII CORPS IN RUHR POCKET, 1944

By March 1944 Allied forces had advanced across France and secured bridgeheads across the Rhine River. Field Marshal Walter Model's forces in the Ruhr Pocket included the Fifth Panzer and Fifteenth Armies. The Allies were expected to attack on a broad front. Hence, wide areas of defense, which included the area of the Ruhr, were nearly continuous and thin.³⁴ The Ruhr Pocket was formed by elements of both the 21st Army Group (Field Marshal Montgomery) and General Bradley's 12th Army Group. VII Corps, under command of Major General J. Lawton Collins, was assigned to 12th Army Group.

The VII Corps troop list included 5 divisions: 3d Armored, 4th Cavalry, and the 104th, 1st, 78th, 86th, and 8th Infantry Divisions. The 3d Armored Division was organized with attachment of one motorized regimental combat team of the 104th Infantry Division to the 3d Armored Division. The attached infantry traveled in troop carriers.

The encirclement of Model's Army Group B began on 25 March 1944. The encirclement was completed by 1 April, but resistance lasted until 18 April. The operations of the VII Corps provide an example of the "follow and support" role.³⁷

On 29 March the 104th Infantry Division received Field Order # 19 from VII Corps, to "[A]ssist the advance of 3d Armored Division . . . with its principal effort on the left, will attack to eliminate enemy resistance within its zone of action."³⁸ Though not explicitly stated, it was the intention of the VII Corps commander, that the 104th would provide assistance by remaining immediately behind the 3d Armored Division. In the same order, the 3d Armored Division was directed to, "advance rapidly to capture corps objective [Paderborn] . . . [and] bypass pockets of resistance in order to seize objective quickly." Over an eight day period, the 3d Armored Division of VII Corps advanced 138 miles.

Two key aspects of this action are the enemy dispositions and the actions of the friendly forces. The perception of the German threat one week before the attack was:

*[Enemy] troops in the RUHR will be [a] constant threat to our left flank, and must be vigorously contained. Furthermore, a considerable amount of scattered armor has been seen in this area in recent days. Elements of seventeen German divisions have been identified in our bridgehead sector.*³⁹

Before daylight on 25 March, VII Corps began the breakout.

The daily progress (also see sketch) of the 3d Armored

Division was:

25 March: 12 miles, half way to Altenkirchen
26 March: 15 miles, Hachenburg (past Altenkirchen)
27 March: 22 miles, crossing the Dill River
28 March: 21 miles, Marburg
29 March: 45 miles, 15 miles short of Paderborn
30 March: 9 miles, 6 miles short of Paderborn
31 March: German counterattack: no progress
1 April: 15 miles (approx), link up in Lippstadt
with 2d Armored Division

The progress recorded above does not address the difficulties encountered. While forewarned, the German defense did not stop the attack. Hence, the 3d Armored Division was through the defense by noon of the first day, and continued to advance until dusk toward Marburg. On the 28th, the 3d Armored Division was ordered to attack north to Paderborn.

Enroute to Paderborn, the 104th Infantry attempted to maintain contact with the 3d Armored. The rapid advance resulted in constant surprise of enemy support units. German units were bypassed by the 3d Armored. Once bypassed, the Germans reorganized and prepared hasty defenses before the following 104th Infantry arrived. During the final rush to Paderborn, the Germans recognized that "the only chance of success [i.e., breakout] lay in striking before the Americans could consolidate behind their armor."⁴⁰ Hence Field Marshal Model ordered General Bayerlein to attack on 30 March, with elements of LIII Corps near Winterberg.

Major General Terry Allen, commander of 104th Infantry Division anticipated this threat. In support of 3d Armored Division, Allen understood his responsibility to protect the 3d Armored Division's exposed left flank. He ordered troops to defend key road intersections protecting 3d Armored's left flank and lines of communication. This response was timely for the German attack on Winterberg began early on 30 March and lasted all day.

What were the "follow and support" tasks actually performed by the 104th? Its 30 March After Action Report stated: "Upon taking their objectives, [the 104th] division [was] relieved by elements of the [follow-on] 8th Infantry Division and prepared to continue in pursuit of the enemy to the north--blocking all enemy movement from the west and protecting the west flank of the corps."⁴¹

FM 100-5, 1949

Throughout this period, armor was not yet an arm of service. This was so in 1949, and in previous versions of Operations. Lack of emphasis concerning employment of armor was perhaps attributable to the historical assignment of armor to support infantry. Armored forces were small compared with the infantry. Second, and probably more important, was the lack of emphasis upon exploitation and more specifically, the relationship between penetration and exploitation forces. This is

significant as doctrine for "follow and support" to support exploitation and pursuit was not refined significantly in this version.

The same four "follow and support" tasks identified in 1941 appear in 1949. There was still no clear description of which reserve units were responsible for each task. In 1949, there were two forms of offensive maneuver: penetration and envelopment.

In penetration, artillery units were to "neutralize the area of penetration" while tactical air forces are relied upon for "pinning down of hostile reserves."⁴² Penetration was expected to be confined to shallow depth. Penetration occurs in three parts: initial breakthrough, widening of the gap, and seizure of the objective.⁴³ The force assigned to each mission was dependent upon the type and strength of the defense. Sometimes motorized or mechanized units would lead. In others, infantry must breakthrough. In either case, reserves widened the breakthrough, protected the flanks of attacking forces or exploited success.⁴⁴ Reserves in this context are those of the penetrating force and were responsible for success of the penetration. In this version then, specific discussion of widening the gaps of penetration and protection of flanks in the context of penetration is developed.

Following the breakthrough, mechanized forces, armor or infantry, exploited success. While a clear recognition

of the need to maintain the momentum of the attack after initial breakthrough existed, exploitation doctrine was limited. Thus, with a lack of emphasis on actions related to exploitation, "follow and support" tasks were ignored.

In summary, the tasks related to the current notion of "follow and support" remained the same as before the war. Tasks focused upon penetration and were the responsibility of reserves. "Less mobile forces" were responsible for relief of mechanized forces fixing enemy forces.⁴⁵ The burden for flank security was shared by aviation and the reserves. They "extend and deepen, or supplement," artillery fires.⁴⁶ Focus remained upon the penetration, not on exploitation. Doctrine for tying penetration to exploitation is absent, even though both had been executed in World War II. This may be explained by the fact that documentation of doctrine frequently follows practice, rather than anticipating it.

FM 100-5, 1954

The most significant change in the tactical doctrine in Operations was the development of doctrine in a nuclear environment. This change was directly responsible for evolution of exploitation and "follow and support" doctrine.

Change 2 to the 1954 version provides very specific tasks that, for the first time, were the responsibility of "supporting forces following the exploiting force."⁴⁷

- [P]rovide additional flank protection.
- [E]xpand the zone of the exploitation.
- [E]liminate bypassed or contained enemy.
- [A]ssist in the logistic support of the exploiting forces.

These tasks were unique because they clearly assigned tasks in support of the exploitation force, and they were not focused upon the penetration. After discussion of the 1954 version (without changes) we will return to discuss Change 2.

There were four types of offensive action in the 1954 version: envelopment, turning movement, penetration and frontal attack. As had been the case previously, discussion of tasks associated with "follow and support" occurred in sections discussing penetration and envelopment.

Reserves retain missions associated with success in the penetration. The three primary missions included: exploitation of success, reinforcement of the main attack, and "providing additional [flank] security."⁴⁸ The task to support the breakthrough found in 1949 remains but was also identified as a task performed by secondary attacks.

The description of the role of the armored division makes clear the continued recognition of the need to maintain momentum in the attack. For example doctrine said to bypass enemy units and make hasty river crossings to maintain the momentum.⁴⁹ There was no discussion of which force was responsible to destroy bypassed units. What appears to be unique was recognition that the initial

objective may be deep. However, support of this "deep" orientation was not detailed.

Change 2 provided the first presentation of exploitation as a separate discussion in Operations. Increased understanding of conventional warfare within a nuclear environment was responsible for development of this doctrine. The fundamental point was the opportunity for deep exploitation is present on the nuclear battlefield. The focus of Change 2 was on providing "direct" [later called "close"] support immediately behind the exploitation force.

In summary, until Change 2, "follow and support" tasks in doctrine were limited to near the penetration. This significant step was a result of development of exploitation doctrine. Development of exploitation doctrine in turn brought to light the need for development of doctrine to support it.

FM 100-5, 1962

In 1962 the doctrine focused on unconventional rather than conventional and nuclear warfare. However, this version maintains a section describing exploitation first seen in Change 2 of the 1954 edition. However, the tasks defined to support exploitation were removed. Therefore, a step back in "follow and support" doctrine was seen.

Tasks associated with this edition were associated exclusively with penetration as was the case before 1954

(Change 2). The contribution to "follow and support" doctrine was the continued concern about the tendency of the main effort to dissipate combat power short of the assigned objective. To reach the objective mechanized forces, "[G]o through, over or around the enemy."⁸⁰ This theme was developed in the brief description of mechanized warfare. Unfortunately, the vulnerability of extended lines of communication (LOCs) was not discussed. The responsibilities of following forces were not developed.

The 1962 version was a departure from conventional warfare doctrine development. Further, it removed the first step to describe the tasks performed in support of an exploitation force.

FM 100-5, 1968

The 1968 Operations, like the 1962 version, continued to focus on unconventional warfare. However, it coined the term "follow and support" and was the first version to discuss the concept since its introduction in 1954 Change 2.⁸¹

The following is the clearest and the first explicit discussion of the concept.

The effectiveness of the exploitation may be enhanced by the commitment of additional forces with a mission of following and supporting the exploitation force. These forces widen or hold the shoulders of the penetration, secure lines of communication, and relieve elements of the exploiting force

containing bypassed enemy forces. Control of the forces performing a follow-and-support mission is retained by the next higher commander. Units given a follow-and-support mission should, where possible, possess or be provided mobility equal to that of the exploiting unit. ⁵²

Three tasks above are substantially the same as those included in current doctrine. They are "widen or hold the shoulders of the penetration, secure lines of communication, and relieve elements of the exploiting force containing bypassed enemy forces."⁵³ Implied in the last task was the requirement for the "follow and support" force to destroy enemy forces after relieving the main force.

Each task above states or implies the requirement for the "follow and support" force to perform support tasks from the point of penetration forward to the exploitation force. This was a departure from the 1954 Change 2 that focused support to the area behind the exploitation force.

In exploitation, reserves were limited to those "necessary to insure flexibility of operation, continued momentum in the advance, and minimum essential security."⁵⁴ The 1968 edition assumed that little or no counterattack threat existed. Therefore, the priority of effort was to reinforcing the main effort rather than upon the flanks. This version contains the first five of the seven tasks listed in the introduction.

FM 100-5, 1976

The 1976 version of Operations was developed for Europe, "the most demanding mission the U.S. Army could be assigned."⁶⁶ The resulting doctrine had a focus known as Active Defense. While attention to the defense was evident, offensive doctrine had not changed significantly.

The tasks assigned to the force now designated as "follow and support" were "[W]iden or secure the shoulders of the penetration, open lines of communication, and eliminate bypassed enemy forces."⁶⁶ All reference, from the 1968 manual, to relieving exploitation forces containing bypassed forces was removed. This task was clarified and replaced with the explicit task to eliminate bypassed enemy forces.⁶⁷

The discussion of "follow and support" in the 1976 version was condensed from 1968. Therefore, like the 1962 Operations, this version too was a step back. It contained no discussion of the reserve and did not present further development of "follow and support doctrine."

FM 100-5, 1982

In the 1982 Operations, discussion of exploitation and pursuit was expanded considerably. In fact, it more closely resembled a logical successor to the 1968 Operations. The concept of exploitation force employment was developed as were the roles of reserves and "follow and support" forces.

The list of tasks for "follow and support" forces was expanded to those found in current doctrine. Description of these tasks remains in exploitation and pursuit.⁵⁸ There was no discussion about principles to govern assignment of these tasks. The following tasks reflect refinement of tasks explicitly and implicitly found in 1968 (marked with --). Tasks added in 1982 are marked with **.

- *Hide or secure the shoulders of a penetration.*
- *Destroy bypassed enemy units.*
- *Relieve supported units that have halted to contain enemy forces.*
- ** *Block the movement of enemy reinforcements.*
- *Open and secure lines of communication.*
- ** *Guard prisoners, key areas, and installations.*
- ** *Control refugees.* 59

These three additional tasks expand significantly the mission of "follow and support" forces. For this reason, "follow and support" forces were committed forces. This version defines the size of the "follow and support" force. In corps operations, a division follows and supports another division.⁶⁰

Blocking enemy reinforcements, a traditional role of reserves, was added as a task for the "follow and support" force. This suggests the question of responsibility for defeat of counterattacks. Unfortunately it was not addressed. As in 1968, the assumption in exploitation was that little threat existed and that security was gained through speed of movement.

The last two tasks were an expansion of the task of opening and securing LOCs. These tasks were not explained, they were simply listed. Exploitation forces "drive swiftly for deep objectives, seizing command posts, severing escape routes, and striking at reserves, artillery and combat support units to prevent the enemy from reorganizing an effective defense."⁴¹ This version indicated the need to assign exploitation forces objectives of great depth and the inherent risks of extended LOCs. Hence, the role of the "follow and support" force begins to clarify.

FM 100-5 (1982) Operations defined three forces: reserves, "follow and support" forces, and following forces. It does not develop the relationships among these forces. "A reserve force has no objective prior to its commitment." The size of the exploitation force's reserve was not suggested. However only sufficient reserve to "insure flexibility of operation, continued momentum in the advance, and essential security" was kept.⁴² During World War II the reserve mission had included protection from counterattacks and reinforcement of the main effort to achieve a decisive result.

The "follow and support" force was committed from the outset. It had an assigned mission. Any discussion of its relationship with the main effort was absent.

Following forces were uncommitted forces. While initially uncommitted, this force "may have the mission of

moving through a penetration . . . and seizing a deeper objective."⁶³ To use a non-doctrinal term, this force may be expected to "follow and assume" the main attack.⁶⁴

Assuming a counterattack threat exists, it was unclear which force would be assigned to defeat it. The "follow and support" force was to "block" a counterattack but may not be able to destroy or blunt it if performing other "follow and support" tasks.

Finally, this version of FM 100-5, Operations, provides discussion of all major elements associated with follow and support. It reflects the transition of emphasis to offensive operations and concurs with the "follow and support" doctrine outlined most clearly in the 1968 version. It does not define the principles for assigning "follow and support" tasks nor does it define the relationships between the major units.

FM 100-5, 1986

The 1986 version of Operations more fully developed offensive operations than its predecessors. Development of principles for exploitation were developed. However, the roles of the reserve and "follow and support" forces were only partially clarified.

The "follow and support" tasks were the same as in 1982. The discussion implied that the "follow and support" force received specific guidance about which

tasks should be accomplished. This recognized the complexity and diversity of the "follow and support" tasks, but was not developed further.

The reserve reinforced success or maintained momentum. When the enemy capability was limited, the reserve may be small. When the enemy was strong or the situation vague, a strong reserve "of half or more of the available maneuver force" may be warranted.⁶⁵ This discussion implied that the reserve was used to ensure accomplishment of the assigned mission. It may include responsibility for defeat of enemy counterattacks or assumption of the main effort ("follow and assume").

The "trailing" force may have the mission of "seizing a deeper objective," the same as the "following" force in 1982.⁶⁶ This force was unique as it was normally assigned "during the exploitation."⁶⁷ The concept was not developed further.

The 1986 Operations stopped short of clarifying key relationships among forces. Otherwise, the concept of "follow and support" was clearly presented.

IV. ANALYSIS

Prior to development of exploitation doctrine, tasks for "follow and support" were underdeveloped. Tasks were associated with penetration and limited objectives. During that period the role of the reserve was well defined. Simply put, it was to ensure success of the

force assigned to penetrate and to exploit success.

"Follow and support" was limited to infantry support following mechanized forces.

Beginning in 1954, emphasis on exploitation doctrine began to develop. Simultaneously, the need to conserve the main attack's combat power was reemphasized. At this point the Army began to develop true "follow and support" doctrine. "Follow and support" focus, at least initially, was directly upon the supported unit, the exploitation unit. After 1954 the tasks reverted to orientation on the point of penetration.

Throughout the evolution of the "follow and support" concept the relationships between the primary forces have been unclear. Further, the apportionment of tasks to these forces was also unclear.

This section presents four statements derived from current doctrine. To the extent that doctrine addresses each, a common framework for understanding, study, and action will be established. A common framework is essential because it provides commanders and planners a standard basis to view the "follow and support" mission and the relationships between units.

The "follow and support" force should provide "close" support to the main force by remaining as close behind the main effort as practicable.

This issue is implied both in the historical development and in the "follow and support" task list

given in Operations (1986). The current list of "follow and support" tasks suggests that support is provided as follows: One task is performed at the penetration ("widen or secure the shoulders of a penetration"), one immediately behind the main effort ("relieve supported units that have halted to contain enemy forces"), and the balance occur from penetration throughout the depth of exploitation. There are two ways to solve this problem.

The first way is implied in the task list found in current doctrine. The "follow and support" force would operate from the point of penetration forward. This provides "extended" support of the main effort. This support expands the shoulders of the penetration, secures LOCs, etc.

This option is built on three central assumptions. The first is that the exploitation force's objective is not far from the penetration. If it were not, the "follow and support" would soon exhaust available forces. Second, the threat of significant counterattack is small. If not it would be difficult, if not impossible, to expect the "follow and support" force to expand shoulders of the penetration while simultaneously remaining prepared to block counterattacks. Finally, the third assumption is that there are no other trailing forces. If there were, they would probably be better postured to conduct "follow and support" near the penetration.

There are two primary consequence of the extended support option. First, the "follow and support" force is likely to be spread throughout the depth of the exploitation. Second, the "follow and support" force is likely to become quickly consumed in accomplishing divergent tasks.

The second way to perform follow and support is to remain close to the main force. This assumes that "follow and support" tasks occurring near the penetration are performed by the penetration or trailing forces. For example, the task of expanding the shoulders of the penetration should be conducted by trailing forces rather than the "follow and support" force. The "follow and support" task should be to "expand the zone [shoulders] of exploitation."⁶⁰ This was first directed in Change 2 to FM 100-5 (1954).

As the depth of main force objectives increased, the doctrine was changed to reflect the importance of providing "close" support to the main effort. In the Ruhr Pocket, the 104th Infantry Division actively protected the flanks, reduced pockets of resistance, and quickly fixed and transferred bypassed enemy forces to trailing forces. The 104th stayed in close and provided direct support to 3d Armored.

The distinction between "extended" and "close" support is important because the current "follow and support" task list includes tasks of both types. It is

difficult to envision a situation where the "follow and support" force is able to accomplish both "extended" and "close" tasks. In fact, assignment to "follow and support" without clear understanding of the commander's intent could doom the "follow and support" force to failure. There are too many tasks, too much distance, and too few units to accomplish the tasks. This is certainly the case if the "follow and support" unit became involved with widening the penetration and securing LOCs, etc. that the tasks of relieving supported units halted to contain enemy forces or blocking movement of enemy reinforcements would be impossible.

The importance of clarifying this point is that trailing forces must share in some of the "follow and support" tasks. For example, trailing units may be required to expand the penetration and assist in opening and securing additional lines of communications. Assume that a 3:1 ratio of forces is required to reduce bypassed forces. If so, it quickly becomes apparent that the "follow and support" force is able to support the main force better if allowed to "hand-off" these bypassed enemy forces to following forces. This accomplished, the "follow and support" force remains focused on supporting the main effort.

Current doctrine does not state the circumstances which warrant assignment of a "follow and support" mission.

The evolution of "follow and support" tasks is clear. However, the circumstances or factors which should govern the commander's decision to assign this mission are not stated. Why, in one case is a unit assigned to "follow and support" and in another the main effort is assigned an objective without additional assistance? A partial answer is implicit in the way the U.S. Army fights.

Soviet doctrine calls for echelonment of units to the fight. When one force is unable to continue, another passes through and continues the mission. U.S. doctrine is different. It assigns forces to the objective and then plans to reinforce and resupply as needed. Assigning a "follow and support" force is simply a technique to delay or extend the expected point of culmination. "Follow and support" is a method of supporting the main effort without replacing forces.

When mechanized/armored forces were limited, infantry was not equipped to continue the exploitation. Hence, infantry or motorized units followed the mechanized exploitation unit. This support allowed the higher commander to assign the main effort an objective beyond what would have been possible if acting alone.

When the main effort reaches culmination, it is unable to advance. The essential aim of the support mission is to extend the point at which culmination would

otherwise be expected to occur. This was accomplished by the combined contributions of the reserve and support units.

"Follow and support" in modern times has changed while retaining some historical aspects. The principal differences are that the forces performing "follow and support" have greater mobility, and they are more closely equipped and organized like the units they support. This gives greater flexibility to the commander. It also makes it possible, at least in theory, for a "like" unit to assume the main effort. This fundamental shift in organization would remove the "follow and support" mission because the following unit is able to assume the mission of the main effort.

In fact, this has resulted in the erroneous belief that the "follow and support" force can assume the main effort. This suggestion, frequently seen in exercises, reflects lack of understanding of the "follow and support" mission.

The question remains then, why would the commander assign a "follow and support" mission when a similarly equipped force is following? One reason, though perhaps too simple, is temperament. In one post-World War II study, this point is made with respect the Ruhr encirclement. "[T]he personality of the VII Corps commander, Lt. Gen. Collins, resulted in that corps being given a disproportionately large share of the army mission

instead of having a flank protection mission only."⁶⁷

Commanders and units have distinct temperaments. Knowing subordinates is essential for the corps commander. This knowledge is the basis of additional, or reduced, flexibility. Additional flexibility is gained when the commander and unit best suited to the task are selected. Flexibility is reduced when few subordinate units are capable of specific tasks. In either case, understanding the subordinate is the essential point.

The relationship of the "follow and support" force to the reserve and trailing forces is not clearly stated.

Perhaps one of the most confusing aspects of the "follow and support" mission is its relationship to reserves and other trailing units. The lack of clarity between assigned tasks is due, in part, to the uniqueness of each tactical situation.

The role of the reserve in 1939 is not helpful to our understanding of its use today because attacks focused on penetration and limited envelopments. Exploitation doctrine was developed beginning in Operations (1941). In that version, the reserve was responsible for, among other functions, countering hostile counterattacks. This agrees with current doctrine. Recall the definition given earlier from FM 100-5 (1986). It states that the reserve may "deal with enemy counterattacks." This definition was applied across the entire offensive framework and was not clarified for the exploitation.⁷⁰ The conclusion is

that both the "follow and support" as well as the reserve may have a role with respect to counterattacks. This is a reasonable deduction, and should be stated clearly in doctrine.

Current doctrine does not state where the reserve should locate with respect to the "follow and support" force. One opinion is given below. To the extent an answer is clearly given, a better foundation for common understanding is established.

Positioning the reserve behind the "follow and support" force is generally preferable given one assumption: that the immediate need of a reserve by the exploitation force is not expected. By keeping the reserve behind the "follow and support" force there are two benefits. First, the reserve is removed from the fight but able to respond quickly to flank threats and move forward as ordered. The second benefit is that the "follow and support" force is able to provide closer support and quicker relief of forces fixing bypassed enemy forces.

The relationship between the "follow and support" force and other trailing forces is crucial. In the Ruhr Pocket, the "follow and support" force remained close to the supported force, while trailing forces assumed control of positions vacated by the "follow and support" force.

The benefit of this approach is clear. Simply put, the "follow and support" force is able to remain focused

on responsive support of the main effort. While this approach assumes sufficient forces are trailing, this is not unreasonable. This relationship should be clearly stated in FM 100-5.

What other aspects of "follow and support" doctrine should be changed to support the U.S. Army's vision of mechanized warfare for the next 10 years?

In exploitation, the main effort is assigned an objective deep in the enemy rear. Since the objective is deep in the enemy rear, speed is an essential ingredient for success because delays would allow an enemy to reestablish the defense. If we assume the main effort is free from the area of penetration and the enemy strength has been arrayed well forward, two factors threaten to cause early culmination.

A strong counterattack near the point of penetration could cut the exploitation force from friendly forces. For this reason, the first task of the trailing force may be to "widen or secure the shoulders of a penetration." As suggested earlier, the "follow and support" force should remain in close support of the main effort and if necessary expand shoulders of the exploitation. Securing these deeper shoulders may include blocking "the movement of enemy reinforcements."⁷¹ Second, by conducting a stubborn defense, bypassed enemy forces may be able to cut LOCs and prevent the main effort from accomplishing the assigned mission.

The situation in which the enemy strength is arrayed in depth is also possible. This may be the case in a highly lethal and non-linear environment. In this case though, an exploitation mission may be inappropriate, at least until conditions favorable to an exploitation are developed.

V. CONCLUSION

The concept of "follow and support" remains an important component of exploitation and pursuit in mechanized warfare. Therefore, it is imperative that a common understanding of this mission is established. To simply assign a division to "follow and support" without clarification is not acceptable. "Follow and support" tasks are too diverse and consuming. Clear guidance will help ensure fuller understanding of the ramifications of this mission on the force assigned to it.

The "follow and support" force can provide the best support by remaining immediately behind the main effort. While it may be possible to provide some support from the line of departure to the objective, when a trade-off is required, the priority should be to close support.

The task of expanding shoulders of the penetration should be modified to read that "follow and support" forces may be tasked to expand the shoulders of the exploitation. Making this change will more clearly associate "follow and support" with close support away

from the penetration.

Other tasks, as defined in current doctrine, should be clearly defined. The current nature of the tasks is confusing as they span the entire battlefield. A commander assigned "follow and support" is likely to be confused about actual expectations. Needed is a simple statement in FM 100-5 to the effect that the use of the "follow and support" force should be well defined; and that the task list provides suggestions from which the actual tasks should be selected.

In exploitation, a force other than the "follow and support" force must be assigned the mission of defeating enemy counterattacks. Giving this mission to the reserve is one solution. This may be the most appropriate given the likely proximity of the reserve to the threat. Another is to assign this mission to another trailing force.

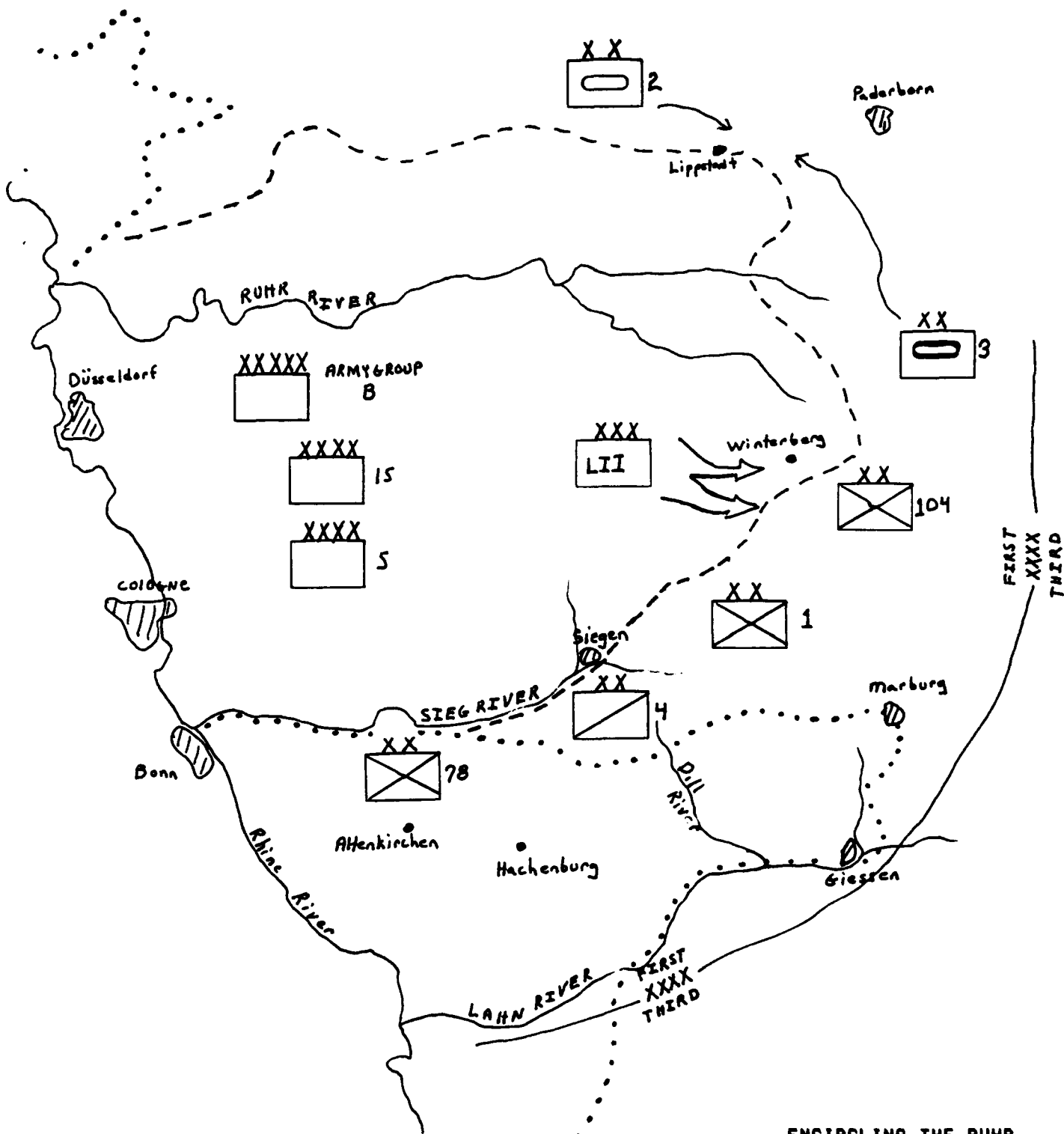
The "follow and support" force is unable to assume the main effort's mission, at least in a timely manner. Assuming a 3:1 ratio of forces to destroy bypassed enemy forces, it would take only a brigade worth of enemy combat power before a "follow and support" division would be completely committed. Assuming this scenario it is unlikely that the "follow and support" division could make the necessary changes to assume the exploitation force's mission. There is, however, a solution.

Trailing forces may be assigned responsibility for "follow and support" tasks behind the designated "follow and support" unit. In assuming this responsibility in a manner like the "follow and support" unit does for the main effort, the majority of combat power available to the "follow and support" force is forward. In this way, the "follow and support" force may be able to "follow and assume" the main effort.

Finally, Army doctrine should clearly describe the relationship between the reserve and the "follow and support" force. This is especially important with respect to tasks associated with defense against counterattacks and assumption of the main effort.

U.S. Army doctrine for "follow and support" makes an important contribution to the U.S. Army's warfighting doctrine. This contribution can be increased only when several key points of confusion are clarified.

SKETCH: Ruhr Pocket, March 28 - 1 April 1945



ENCIRCLING THE RUHR

. . . . Front line 28 March
 - - - - Front line 1 April
 Unit locations as of 1 April
 Sketch approximately to scale
 0 5 10 miles

ENDNOTES

1. Colonel E. M. Burnett, "Interim Report # 105" observer with V Corps, 14 April 1945, (9325) Combined Army Reference Library, Fort Leavenworth, KS.
2. U.S. Army, Training Text 100-2, The Infantry Division (Headquarters U.S. Continental Army Command 1957), p 119 contains the earliest use of the term I found.
3. The terms for forces which follow the main effort but are not yet committed has varied over time, and varies in this paper. Early doctrine frequently uses the term "following forces." The current version of FM 100-5, Operations, p 123, uses the term "trailing forces". While not yet committed these forces, particularly in current usage, may have a deeper mission. In this paper both terms are used but should be understood generally to have the same meaning.
4. The "follow and support" concept is associated exclusively with exploitation and pursuit. However, before exploitation was an integral component of the offense, as in early versions of Operations, tasks now associated with "follow and support" were part of penetration and envelopment.
5. U.S. Army, FM 100-5, Operations, (Washington: Department of the Army, 1986), 118.
6. U.S. Army, FM 101-5-1, Operational Terms and Symbols (Washington: Headquarters Department of the Army, 21 October 1985), 1-33.
7. U.S. Army, Change 1 to Programmed Test 100-1, (U.S. Army Command and General Staff College, August, 1990), Fort Leavenworth, Kansas.
8. Carl von Clausewitz, On War, edited and translated by Michael Howard and Peter Paret (Princeton, NJ: Princeton University Press, 1976), 528.
9. Clausewitz, On War, 567.
10. Clausewitz, On War, 567-568.
11. Ibid.
12. Ibid.
13. Ibid.
14. Ibid, 569.
15. Ibid, 210.
16. FM 100-5 (1986), 106.

17. Major Robert A. Doughty, "The Evolution of U.S. Army Tactical Doctrine, 1946-1976," Leavenworth Papers, No. 1 (August 1979): 1.
18. Infantry, unless otherwise noted, refers to foot infantry. Motorized and mechanized infantry come to prominence later.
19. U.S. Army, FM 100-5, Field Service Regulations--Operations (Washington,: Department of the Army, 1939), 140.
20. FM 100-5 (1939) suggests that exploitation was conducted by the mechanized and horse cavalry rather than by tank units.
21. FM 100-5 (1939), 132.
22. Ibid, pp 130, 132.
23. FM 100-5 (1941), 103.
24. Ibid, pp 255, 257 and 272.
25. Ibid, 102.
26. Ibid, 103.
27. Ibid, 104.
28. Ibid, 103.
29. Ibid, 271.
30. Ibid, 255.
31. Ibid, 273.
32. Ibid, 257.
33. Ibid, 272.
34. Ibid, 103.
35. FM 100-5 (1944), 309.
36. Charles B. MacDonald, The Last Offensive (The U.S. Army in World War II: European Theater) (Washington: Government Printing Office, 1984), 339.
37. Except as otherwise noted, this section is a summary of the presentation by Charles MacDonald in The Last Offensive, Chapter XVI Reducing the Ruhr pp 344-368.
38. U.S. Army, VII Corps, Field Order 19 (Confirming oral orders CG VII Corps issued 29 March), Combined Arms Research Library, Fort Leavenworth, KS.

39. Staff Conference 1st U.S. Army Headquarters, March 20, 1945, cited in 2nd Command Class: Operation of the United States First Army in Encircling the Ruhr Area, 3.
40. The Last Offensive, 353.
41. U.S. Army, Battle Analysis Vol. 7 Part 5, 104 ID After Action Report, 30 March 1944, 26.
42. FM 100-5 (1949), 85.
43. Ibid.
44. Ibid, pp 87,108.
45. Ibid, 257.
46. Ibid, 85.
47. FM 100-5 (1954), change 2 (27 July 1956), 13.
48. FM 100-5 (1954), 88.
49. Ibid, 215.
50. FM 100-5 (1962), 63.
51. FM 100-5 (1968), 6-13.
52. Ibid, pp 6-12, 6-13.
53. FM 100-5 (1986), 118.
54. FM 100-5 (1968), 6-13.
55. FM 100-5 (1976), 1-2.
56. Ibid, 4-12.
57. Ibid.
58. FM 100-5 (1982), 9-19.
59. Ibid, pp 9-17, 9-18.
60. Ibid, 9-18.
61. Ibid, 9-16.
62. Ibid, 9-17.
63. Ibid, 9-9.

64. Programmed Text 101-5-1 (change 1) 1990, defines follow and assume as: A committed force that follows a force conducting an offensive operation. Such a force is not a reserve or support force, but is committed to assume the subsequent main attack of the headquarters to which it is assigned, attached or OPCON.

65. FM 100-5 (1986), 123.

66. Ibid.

67. Ibid.

68. FM 100-5 change 2 (1956), 13.

69. Operation of US 1st Army in Encircling Ruhr Area: Study of Recent Operations by 2nd Command Class, Command and General Staff School, (R-13598) Combined Army Reference Library, Fort Leavenworth, KS, 2.

70. FM 100-5 (1986), 106.

71. Ibid, 118.

SELECTED BIBLIOGRAPHY

BOOKS

- Bellamy, Christopher, The Evolution of Modern Land Warfare: Theory and Practice. London and New York: Routledge, Chapman and Hall, Inc., 1990.
- Bellamy, Christopher, The Future of Land Warfare. New York: St. Martin's Press, 1987.
- Clausewitz, Carl Von, On War. Edited and Translated by Michael Howard and Peter Paret, Princeton University Press, Princeton, New Jersey, 1976.
- Collins, J. Lawton, General, U.S. Army, Lightning Joe: an Autobiography. Baton Rouge and London: Louisiana State University Press, 1979.
- Gabel, Dr. Christopher R., The Lorraine Campaign: An Overview, September-December 1944. Fort Leavenworth, Kansas: U.S. Army Command and General Staff College, 1985.
- Gabel, Dr. Christopher R., The 4th Armored Division in the Encirclement of Nancy. Fort Leavenworth, Kansas: U.S. Army Command and General Staff College, 1986.
- Horrocks, Sir Brian, Corps Commander: and Autobiography with Eversley Belfield. New York: Charles Scribner's Sons, 1977
- Lind, William S., Maneuver Warfare Handbook. Boulder and London: Westview Press, Inc., 1985.
- MacDonald, Charles B., The Last Offensive, United States in World War II. Washington, DC: Office of the Chief of Military History, 1984.
- Simpkin, Richard, E. Race to the Swift. London, England: Brassey's Defense Publishers Ltd., 1988.

GOVERNMENT DOCUMENTS

- Battle Analyses, Ruhr Encirclement. Vol 7 Part 5; Vol 8, Washington, DC: US Government Printing Office.

Field Manuals (FM)

FM 71-3, Armored and Mechanized Infantry Brigade.
Washington, DC: U.S. Army, 11 May 1988.

FM 71-100, Division Operations. Washington, DC: US
Department of the Army, 16 June 1990.

FM 71-100-1, Armor and Mechanized Division Operations:
Tactics and Techniques. Washington, DC: US
Department of the Army, 1 May 1991.

FM 71-123 (Final Draft), Tactics and Techniques for
Combined Army Heavy Forces: Armored Brigade,
Battalion/Task Force, and Company/Team.
Washington, DC: US Department of the Army, June
1991.

FM 100-5, Tentative Field Service Regulations. U.S. War
Dept., 1 October 1939.

Field Service Regulations. U.S. War Dept, 22 May
1941.

Field Service Regulations. U.S. War Dept, 15
June 1944.

Operations. Department of the Army, 15 August
1949.

Operations. Department of the Army, 27 September
1954.

Operations. Department of the Army, 19 February
1962.

Operations. Department of the Army, 6 September
1968.

Operations. Department of the Army, 1 July 1976.

Operations. Department of the Army, 20 August
1982.

Operations. Department of the Army, 5 May 1986.

FM 100-5-1, Operational Terms and Symbols. Department
of the Army, 21 October 1985.

FM 100-15, Corps Operations. Washington, DC: US Army,
13 September 1989.

FM 100-15-1, Corps Operations: Tactics and Techniques.
Unedited Coordinating Draft, Washington, DC: US
Army, April 1991.

Unpublished Government Documents, Field Orders,
Headquarters, VII Corps, March-April 1945.

Unpublished Government Documents, Intermediate Reports, Headquarters, European Theater of Operations, U.S. Army, 1945.

Unpublished Government Documents, Intermediate Reports, Headquarters, Mediterranean Theater of Operations, U.S. Army, 1945.

Unpublished Government Paper, Operations of the First United States Army in Encircling the Ruhr Area: Study of Recent Operations by 2d Command Class, Command and General Staff School, 1947 (est.).

Unpublished Government Documents, Operations Memos, Headquarters, VII Corps., February-April, 1945.

INTERVIEWS

Burkett, Maynard, LTC., U.S. Army. LTC Burkett is an Instructor and Doctrine Writer for the Center for Army Tactics, U.S. Army Command and General Staff College. Interviews focused on tactical doctrine for follow and support.

Gabel, Dr. Christopher R., Dr. Gabel provided assistance in development of the Ruhr Pocket historical example. Dr. Gabel is assigned to the Combat Studies Institute, U.S. Army Command and General Staff College, Fort Leavenworth.

Thurman, Ed, LTC. U.S. Army. LTC. Thurman is assigned as Doctrine Writer for the FM 100-5 at the School of Advanced Military Studies, U.S. Army Command and General Staff College, Fort Leavenworth.

ARTICLES

Barbara, James C. MAJ., U.S. Army and MAJ Robert F. Brown. "Deep Thrust on the Extended Battlefield," Military Review (October 1982).

Doughty, Robert A. MAJ., "The Evolution of US Army Tactical Doctrine, 1946-76," Leavenworth Papers (August 1979).

Holder, L.D., LTC. U.S. Army. "Maneuver in the Deep Battle," Military Review (May 1982).

Starry, Donn A. "Extending the Battlefield," Military Review (March 1981).

THESES AND MONOGRAPHS

Benjamin, David, J. "Prerequisite for Victory: The Search for the Culminating Point." SAMS Monograph. 1986.

Coomler, James D. "The Operational Culminating Point: Can You See it Coming?" SAMS Monograph. 1986.

Kalb, John, F. "A Foundation for Operational Planning: The Concepts of Center of Gravity, Decisive Point, and the Culminating Point." SAMS Monograph. 1987.